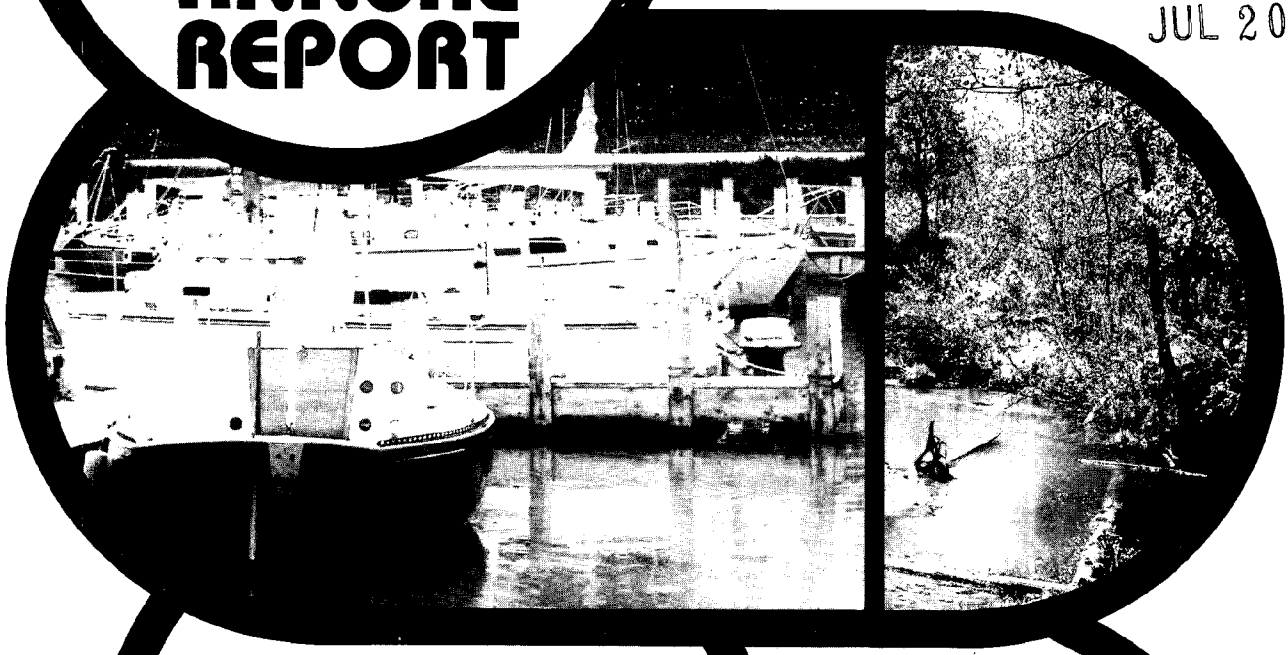
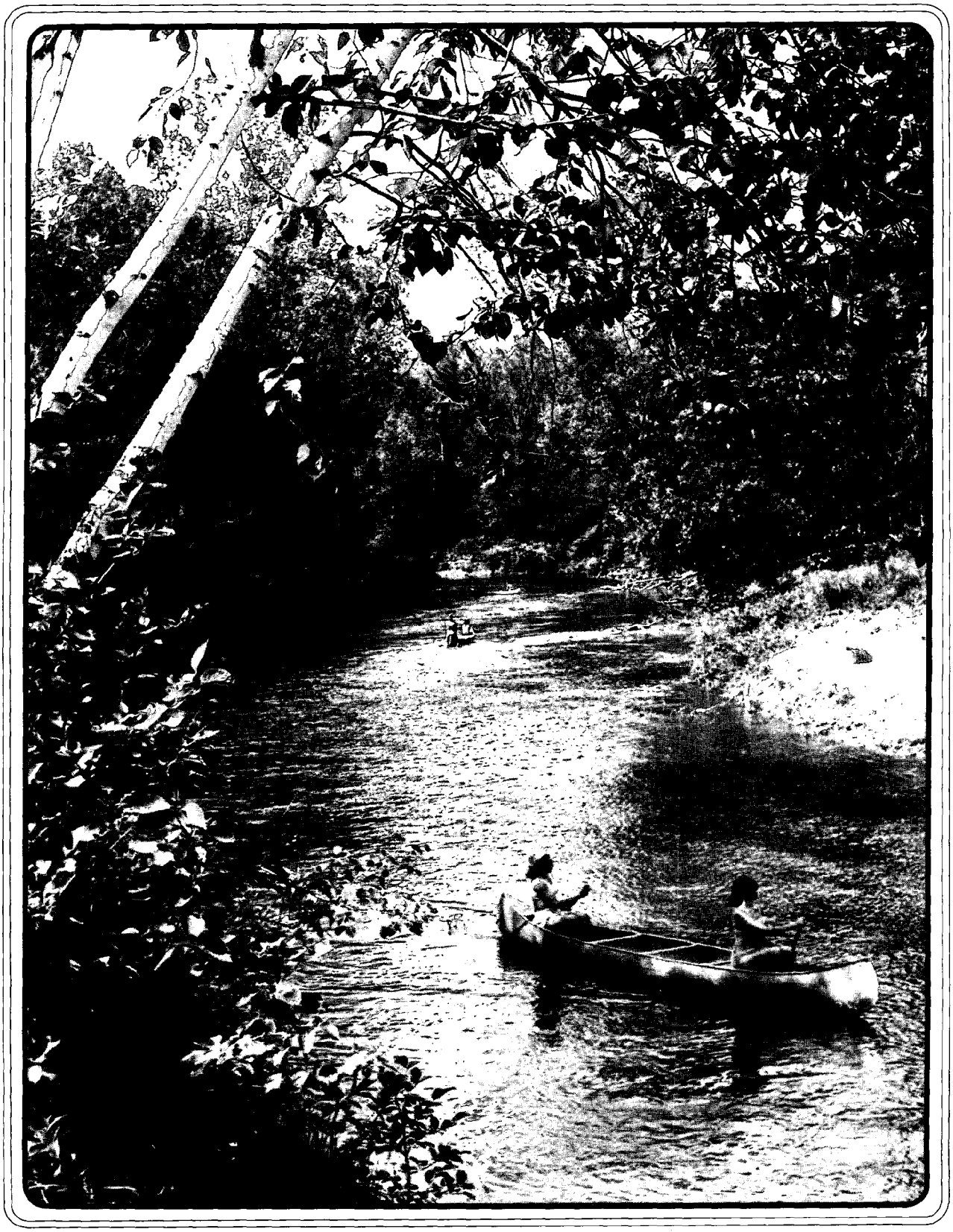
GREAT LAKES BASIN COMMISSION 1976 ANNUAL REPORT



CONTENTS



To Their Excellencies, the Governors of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, and Wisconsin, and to the U.S. Water Resources Council for transmittal to the Congress through the President of the United States:

During the 15-month period of this report, fiscal year 1976 and an additional quarter, the Great Lakes Basin Commission successfully met growing demands upon it to respond positively to environmental challenges and economic pressures. The success is directly attributable to the willingness of the commissioners to move in full consensus toward solutions to resource problems and is ascribed also to a staff bent on achieving maximum results under conditions of continuing inflation and tight funding.

Asbestos in Lake Superior, water pollution in Green Bay, sedimentation in the western basin of Lake Erie, toxic substances in Lake Ontario — these were some of the water quality problems that spurred the public desire to become more closely involved in planning with the Commission. The upsurge in public demand for involvement in planning and recommending government actions for water and land continued.

Commissioners, aided by staff and public, generated the final *Report* and recommendations of the Great Lakes Basin Framework Study. They brought to a climax a singular 7½-year effort of more than 450 government people and thousands of public to compile all available water and land resources data on the Great Lakes Basin, survey the problems they foresaw, and recommend solutions to government legislatures and executives.

The international planning environment for the Commission was the setting for another major concern. Federal funds for wastewater treatment facilities construction grants were impounded and then proposed to be reallocated, primarily to areas other than the Great Lakes. The Commission responded by urging release of impounded funds and a further reallocation of funds back to the Great Lakes Basin states.

The need for better communications with the federal legislators was pointed up in a survey by the Great Lakes Task Force of the American Association of University Women and reported to the commissioners early in the fiscal year. In response, the Basin Commission held its next quarterly meeting in Washington, D.C., at a site convenient to the Capitol building and invited legislators to attend. Legislators and aides heard presentations by the eight states concerning water and land resource issues of special concern in their states. Congressmen reviewed the Commission's work, history, and progress.

Special issues of interest to both the United States and Canadian sides of the Great Lakes arose during the 15-month period. One of them was whether to review the policy against oil and "wet" gas drilling in the Lakes. Another was lake level control. The eight-state caucus held fast to the international ban on such drilling, and the Commission favored continuing its review of potential controls for lake level fluctuations.

The Commission began its year with 12 federal members. During the period, the U.S. Department of Health, Education, and Welfare, long inactive in the Commission's operation, asked to be dropped from the Commission as it had been from the U.S. Water Resources Council. The Commission's membership now consists of eleven federal agencies, eight states, and an interstate commission.

The coming year has a great potential for achievement beyond all that has been done so far to plan for the beneficial future of the Great Lakes area. It will see the beginning of new planning programs and the conclusion of studies such as the Maumee River Basin Level B Study and the Great Lakes Basin Framework Study, the reports of which are not completely distributed.

The major new program will be the comprehensive plan for the Great Lakes region. Based on the Framework Study, this planning effort may be expected to become an effective tool among the many state and federal government and public sectors and will form a basis for Great Lakes Basin water and land management. The effectiveness of the planning effort will be contingent upon the policies of the federal administration and the states.

Barring unforeseen events, the coming year appears to have the ingredients for breakthroughs in water and related land resources planning and coordination of plans with increased public involvement. Success will depend entirely upon the continued willing cooperation among the commissioners, staff, and public.

Frederick O. Rouse
Chairman

A BASIS FOR NEW TRENDS

A basis for new trends and new directions was established during the reporting period. The Great Lakes Basin Commission keyed itself to respond more promptly to resource problems and the need for continuing institutional change in order to better address evolving conditions.

The anticipated comprehensive plan was re-scoped to produce a product faster — an entire sketch plan by the end of fiscal year 1977. The Commission moved to place under a single budgetary item all funds related to the coordination of planning, the comprehensive plan, proposed small new special studies, and planning priorities. The budgetary apportionment for planning was changed from 50 percent state and 50 percent federal to 25 percent state and 75 percent federal funds.

Typical of the Basin Commission's basic approach to effective non-duplicative planning, the first elements of the comprehensive plan were adopted. They were compatible elements of the State of New York's existing river basin plans. Other existing regional-local plans and portions of plans that are compatible and the updated Great Lakes Basin Framework Study will be among the first elements incorporated in the plan.

Continuing the trend toward better use of data already at hand, the Great Lakes Environmental Planning Study was re-proposed for evaluating the effects of programs on the total Great Lakes system, re-scoped to use those mathematical models of Great Lakes characteristics that already exist.

In an analytical review of the roles of the Federal Regional Council and the Great Lakes Basin Commission, a Joint Task Force on Shoreland Damage Reduction was disbanded by mutual agreement of the institutions. It was agreed that the Basin Commission would approach the problems of reducing shoreland damage through the recently estabished Standing Committee on Coastal Zone Management, under whose multi-agency activities the state members could coordinate a strategy.

Once again flexing to meet the need, a Regional Water and Energy Study proposal was revised to better reflect emphasis on water quality and quantity, environmental impacts, offshore development impacts, and policies.

At the request of the public in a quarterly meeting in Washington, D.C., the Commission changed its bylaws to provide as a regular agenda item an opportunity for the public to speak directly to Commissioners.

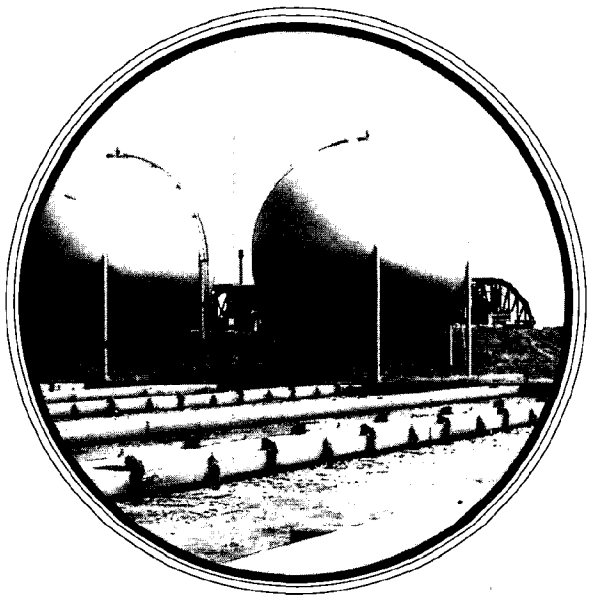
At the same Washington meeting, in a move toward a closer working relationship with federal legislators, the eight states presented to them reports on issues of concern: lake levels, shore erosion, energy and power plant siting, commercial navigation and intermodal transportation, and federal funding to states for water planning.

In response to public interest, the Commission held special meetings to allow public to review the Great Lakes Basin Framework Study recommendations another time prior to finishing them for the study *Report* and furnishing them to the President and Congress. The trend toward including the public to make sure the resulting plan is most useful is expected to move further from the reactive mode where public review a plan and respond at a hearing when the plan is finished. Over the past several years, the Basin Commission has provided opportunity during the course of planning for public to state preferences among goals, objectives, and given alternatives. The new trend, that of jointly establishing goals and objectives, public and planner, when the study is about to begin, will be continued. The trend could grow appropriately to include the public during the proposal of a planning effort in order to enhance legislature approval and improve acceptability of the proposal.

Taking firm official stands on issues constitutes a second increasing Commission trend. The Commission stood firm to ensure that non-structural as well as structural measures are to be considered for flood control programs. It unanimously recommended an immediate ban on PCBs for nonessential uses and a complete ban as soon as substitutes for essential uses could be found.

The Commission continued to advocate increased state responsibility and involvement in all planning activities. Coastal zone management, multimodal transportation, winter navigation, and state representation on international boards concerned with such matters as lake level regulation are areas where state involvement has already increased.

The basis for these trends is recorded further in this annual report. Their continuation and the beginnings of new trends will depend entirely upon state and federal policies and personnel.



COMPREHENSIVE PLANNING

GREAT LAKES BASIN FRAMEWORK STUDY

The 1976 fiscal period produced a major milestone in the work of the Great Lakes Basin Commission. It marked the completion of the encyclopedic Great Lakes Basin Framework Study, the most comprehensive basic study ever complied on the Great Lakes system. The 27-volume Framework Study has provided a sound, consistent data base on which whole-system plans for the future of the Great Lakes Basin are already being built. Upon this foundation and within this framework, alternative plans for the conservation, development, and wise use of the Basin's water-related resources will be evaluated during the next 50 years.

The Great Lakes Basin Commission compressed what it had learned during the course of this 7½ year investigation into a set of broad but brief recommendations intended to guide future governmental action on these resources. The public commented on the recommendations, as they had on the entire study. The recommendations were published in the *Report,* which summarizes the study details.

The fall of 1976 saw the publication of the *Report* and two other volumes, the *Environmental Impact Statement* and Appendix 1, *Alternative Frameworks,* which together make up the heart of the Framework Study. Each of the 24 other volumes is an appendix devoted to a specific resource or problem category.

Appendix 1, *Alternative Frameworks,* describes the methodological basis on which quantified projections of water-related supplies and needs were estimated for the years 1980, 2000, and 2020. These projections were reduced to two alternative frameworks of growth. The normal framework is based primarily on historic trends of population and economic growth. The proposed framework reflects public preferences and Basin Commission judgments about the expected levels of growth and development. Appendix 1 contains extensive tables quantifying costs and outputs for the two frameworks.

The *Environmental Impact Statement* for the Framework Study differs from most environmental impact statements. It assesses in qualitative and quantitative terms the environmental impacts of various rates of development rather than of specific authorized constructions projects or actions.

The appendices that support the Framework Study conclusions were based on the expertise of more than 450 planners and technical specialists from local, state, and federal government agencies, assisted by university scientists. They met in 23 work groups, each of which produced a volume (in one case, two volumes).

The Framework Study recommendations and proposed framework were based on more than research and technical expertise. An equally important component of the Framework Study was the extensive public involvement program, designed to gauge citizen objectives for resource conservation and development within each of the 15 planning subareas. This program entailed 32 public meetings and workshops in cities across the Basin between 1970 and 1976. Twelve of the meetings and workshops were held during the 1976 fiscal period. Throughout the period of study, public were consulted informally as well. Input from local, regional, and state governments was considered in formulation of the proposed framework for each of the planning subareas.

The Framework Study will be used not only by the Basin Commission, but also by numerous other federal, state, and local government agencies in planning, research, and specific programs. It will be used by commerce, business, and industry as a guide to trends. Processors, testers, engineers, and consultants in water-related fields will refer to the study for information. It has been cited by citizen groups, libraries, educators, and students, as a unique source of Great Lakes Basin data.

By the end of the 1976 fiscal period, some 1,070 orders for nearly 11,000 individual volumes, including 300 complete sets, of the Framework Study had been filled. Requests for the *Report* came from England, Japan, Germany, Russia, and Australia, as well as Canada. The Framework Study *Report* and *Environmental Impact Statement* were sent to the head of each Basin Commission member agency for the formal 90-day review. Review comments will be incorporated before final transmission of the study reports to the President and Congress through the U.S. Water Resources Council.

THE COMPREHENSIVE COORDINATED JOINT PLAN

During fiscal 1976, the Basin Commission began work on the comprehensive coordinated joint plan (CCJP) for the Great Lakes, a broad effort to guide the wise use of water-related resources as far as 50 years into the future. The CCJP, defined this year, will further evolve as the Basin Commission's main product in years to come.

By the fall of 1976, the Basin Commission had accomplished extensive preparatory work on the CCJP. The Great Lakes Basin Framework Study was the most important preparatory step. It established the consistent basinwide information base needed for the broader effort. For the first time since the Basin Commission was established in 1968, however, separate funds became available to start developing the comprehensive plan itself.

Development of the CCJP was mandated in the Water Resources Planning Act of 1965, which authorized the creation of state-federal river basin commissions. The word "comprehensive" was meant to ensure that the plan took account of the entire range of water-related resource uses and their impacts. The plan must also "coordinate" harmoniously those resource uses which often conflict. As a "joint" plan, the CCJP must reflect consideration of all views among the many levels of government and private entities who take part in water development and use. The "plan" must estimate long-range water needs and prob-

lems, evaluate alternative ways of meeting them, and recommend the best mix of solutions.

The Basin Commisson took two major steps to gear up for a full-scale plan development. Commissioners approved a conceptual plan of study and a practical work organization outline and scheduling plan to guide CCJP development. The schedule calls for a full-basin sketch version of the CCJP to be completed by October 1977 and a detailed CCJP to be completed by 1980. Develoment of the detailed CCJP will focus first on the five Lake basins and later consider progressively smaller geographic regions.

The Basin Commission discussed a draft proposal for ensuring public involvement in the CCJP process but deferred formal approval of a structure for public involvement until a wider range of citizen opinion could be gained. It had become clear by the end of the fiscal period that CCJP public involvement was in fact already growing as a result of public interest nurtured by the Great Lakes Basin Framework Study, the first step toward the CCJP.

The Basin Commission goal is to develop the CCJP as a dynamic mechanism for understanding and assessing all the interrelated problems and needs affecting water resources in the Basin and for recommending annually the most efficient solutions to problems which require immediate action. In effect, the CCJP would be a continuous monitoring and guidance system to maintain water use consistent with the economic, environmental, and social well-being of the Great Lakes region. To accomplish this, the CCJP will take account of actions by the private sector as well as by governments.

The first of three major CCJP components, the Baseline, is an inventory of all major ongoing and completed planning efforts, programs, and projects which affect the region's water resources. The Basin Commission staff began compiling this Baseline.

Under the second component, the Direction for the Future, the Commission will analyze and evaluate information gathered in the Baseline. This phase will identify current programs that are inadequate to meet future water problems and needs, develop and compare alternatives for solving them, and prioritize the alternative solutions for implementation.

Component three, the Next Step, is the annual product of the CCJP process: a set of recommended actions for the near future, specifying the agency (public or private) and time period for their implementation. Next Step recommendations will be brought to the attention of the President, the Congress, and the governors of the eight Great Lakes states for consideration in their annual budgeting processes.

The Basin Commission developed a structure for the CCJP which will ensure that it is revitalized annually, not left on the shelf to gather dust. Based on sound analysis of the water-related problems of the Great Lakes region, it will lead directly to the implementation of programs and projects. The success of the CCJP will be clearly measurable by the degree to which programs it recommends are implemented.

NATIONAL WATER ASSESSMENT—GREAT LAKES REGION

The National Water Assessment is a descriptive assessment of the nation's present and future water resource supplies, needs, and problems. Conducted by the U.S. Water Resources Council, an executive agency reporting to the President, the Assessment is meant to provide the information needed for comprehensive solutions to the nation's water-related problems. Where information is insufficient, it will recommend further studies.

Begun in 1975, the present National Assessment is scheduled for completion by 1978. It addresses federal and federally-funded water resource programs and is expected to form a basis for a continuous national planning system. This second National Assessment is expected to be updated continually in the future.

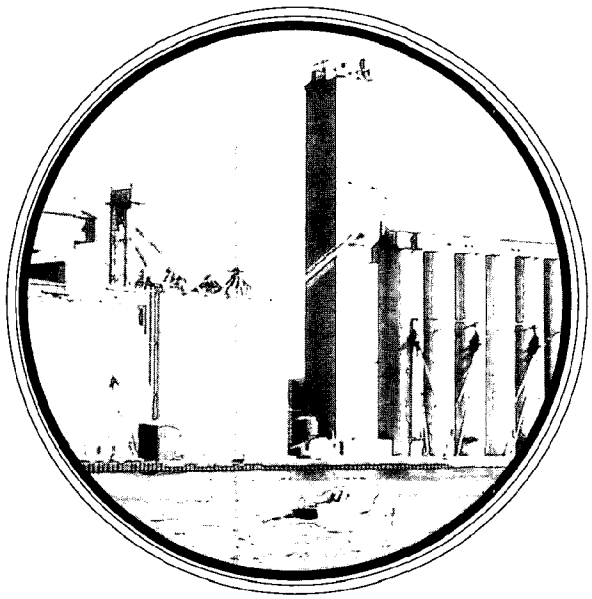
Acting for the Water Resources Council as sponsor of the Great Lakes regional portion of the National Assessment, the Basin Commission developed three reports during the 1976 fiscal period: *Technical Memorandum Number 1, State-Regional Future,* and *Problem Identification.*

Technical Memorandum Number 1 outlines the broad problems and issues of the Great Lakes region as projected to years 1985 and 2000. It was developed primarily for use by Basin Commission member agencies.

State-Regional Future describes trends in water consumption, land-related activities, and economic and demographic growth for the Great Lakes region, projected to the year 2000.

Problem Identification identifies 28 major problem areas in water and related land issues that affect Great Lakes water resources. Both the *State-Regional Future* and *Problem Identification* reports were made available to the public at no charge by the Basin Commission in September of 1976.

To ensure that the Assessment included both local and broader views of the water problems, a public review group of more than 500 Great Lakes Basin people was formed. They were invited to participate through the *Communicator* with the aid of the Basin Commission direct mail files. Citizen volunteers selected other concerned citizens who were also invited to join the review group.



The National Assessment work group of technical personnel from state and federal agencies developed preliminary information, which they analyzed, refined, and reviewed with the Basin Commission staff to produce the *State-Regional Future*. The two groups, public and technical, added problem information to the *Problem Identification* report.

Further study will focus on the effects of leaving unsolved the problems that have so far been identified. This part of the Assessment will be published as *Technical Memorandum Number 3, Specific Problem Effects*. The National Assessment technical and public groups expect to formulate final recommendations and conclusions. These will be published in a final report, accompanied by a summary of the entire Great Lakes contribution to the 1975 National Water Assessment.

GREAT LAKES PROGRAMS

Great Lakes Basin Programs 1976-1977 catalogues and describes a variety of planning, research, and data acquisition programs that government agencies conducted during 1976 or anticipated for 1977. It functions as a valuable reference for current program information and as a point of departure for considering future resource needs, problems, and opportunities in the Great Lakes region.

This year's report, approved by the Commissioners at their August 1976 quarterly meeting, catalogues 1976-1977 programs and revises and updates a prior edition, *Great Lakes Basin Programs 1975-1979*. The previous report's coverage of agencies was broadened in the new edition to include newly started programs, those previously unanticipated, and programs that were begun previous to 1976 and currently are continuing.

Programs listed are categorized as to type. Their objectives and contents are described. Information for each program includes the agency or department under whose auspices the work is done and the duration and cost of the work.

Information on newly revised programs of the Great Lakes states, federal agencies, regional planning commissions, and other selected entities was obtained by the Basin Commission staff in late 1975.

Copies of the report are available without charge.

PRIORITIES

One of the Great Lakes Basin Commission's most important functions is to recommend schedules of long-range priorities for studies, plans, and implementation of water-related programs and projects. The Basin Commission developed a set of specific standards by which these priorities will be set. The standards were approved and published by the Commission in a report entitled *Annual Priorities Report Guidelines*.

The *Priorities Report* itself will be completed in mid-1977 and will be updated annually thereafter. It will establish priorities among those studies, projects, and programs which will be recommended in coming years in the Commission's comprehensive plan for the region. As an expression of coordinated regional priorities, it will serve as an important guide for legislative and administrative actions affecting water and related land resources of the Basin. After adoption by the Commission, the *Priorities Report* will be submitted to the governors of the Great Lakes states, the U.S. Water Resources Council, the President, and Congress.

The guidelines developed during 1976 established systematic procedures to ensure that all state and federal member agencies are heard from in the evaluation process. The *Priorities Report* will summarize the proposed new start programs for fiscal years 1979-1983 and rank a limited number of the most important programs. Seven major criteria will be used for ranking. Economic development, environmental quality, fulfillment of objectives, compatibility with other plans, degree of support, and geographic impact are among them.

LEVEL B STUDIES

Maumee River Basin Level B Study

The Maumee River Basin Level B Study, a two-year comprehensive planning effort spanning portions of Indiana, Michigan, and Ohio, entered the review phase following the completion of the major portion of plan formulation.

The Maumee basin, a 4.4-million-acre watershed draining into Lake Erie at Toledo, was chosen for the first Level B study in the Great Lakes region because of its multistate character and its major impact on the water quality of Lake Erie. About 85 percent of the land in the Maumee basin is devoted to agriculture. The very low premeability of soil and poor natural drainage have made extensive supplemental drainage necessary. Sedimentation from agricultural and urban erosion has created severe problems in the river system and Maumee Bay. The critical issue in the basin's growing urban areas is water quality. High bacteria counts are found downstream from major communities. Municipal, industrial, and nonpoint-source pollution have significantly high concentrations of nitrates and phosphates, which stimulate profuse growths of algae and can cause low dissolved oxygen levels. Flooding, especially in the Fort Wayne area, is another complex problem given high priority in the study.

Prior to 1976, the study planning board used existing information supplied by agencies to make an initial identification of problems, needs, and opportunities for conservation and development of the basin's water-related resources. Alternative ways of addressing them had been refined by staff and the board in light of goals set by the

Maumee study Citizens' Advisory Committee, a set of extensive technical papers, and a series of public workshops held in five cities in prior years.

During the 1976 period, alternative plans were formulated in detail to show differences and trade-offs among possible solutions that were acceptable under environmental quality and economic development objectives. These were published in a booklet, *Alternative Plans for Public Action*, which formed the background for a series of eight informal public forums in cities across the basin during January 1976. To obtain additional public views, a 68-question survey was mailed to approximately 1,400 basin residents who had expressed interest in the study. Public choices and concerns stated in the forums and questionnaire were tabulated and published in another booklet, *Report on the January 1976 Public Involvement*, which was provided to interested residents and the media.

Using information gathered, the planning board and Citizen's Advisory Committee assigned relative public priorities to the proposed programs and developed the Selected Plan for the Maumee basin. All technical papers and formulation of the Level B Plan were completed by August 1976. The Plan Supplement presenting the data, processes, alternatives, and conclusions for a comprehensive consideration of water and related land resources was sent for a technical 45-day review to study participants, the Citizens' Advisory Committee, and members of the Great Lakes Basin Commission. The *Summary Report* outlining the plan was sent for official 45-day review of the same groups.

A series of public hearings was scheduled in early calendar year 1977, following the reviews of the final draft reports and prior to the adoption of the Maumee study into the Basin Commission's comprehensive coordinated joint plan. The final *Summary Report* will be sent to the Great Lakes governors, heads of federal departments, and the International Joint Commission for a 90-day review.

Fox-Wolf River Basin Study

The *Fox-Wolf River Basin Proposal to Study* was rewritten and resubmitted to the U.S. Water Resources Council; and the Council, the President, and the Congress approved federal funding for the Fox-Wolf River Basin Study, beginning in October 1976. The federal share of the study costs is $831,000, while the state and local share is $277,000.

The Fox-Wolf River Basin Study was proposed in response to the expressed desire of the State of Wisconsin. The state's concern centered on problems of water quality, erosion and sedimentation, urban and rural flooding, recreational opportunities, fish and wildlife management, regulation of lake levels, and conflicting land uses. While several studies of specific problems have been made by various state and federal agencies, a comprehensive Fox-Wolf River basin plan has not been made. The nature, scope, and appropriateness of this study lie in recognition of the complex and interrelated problems in the river basin.

The Fox-Wolf River basin drains approximately 6,380 square miles east of central Wisconsin. The study area is roughly 13 counties and was populated by 660,000 people in 1970. The population is largely concentrated within the Green Bay-Fox River-Lake Winnebago area. Major cities in the Fox-Wolf River basin include Appleton, Fond du Lac, Green Bay, Neenah-Menasha, and Oshkosh. Existing land use types range from forests in the headwaters to productive farmland dotted with rural communities in the central and lower reaches of the basin. Industrial and commercial areas are concentrated on the lower Fox River.

The study participants will formulate alternative solutions to the major problems confronting water and land resources in the basin. Their final product will be a coordinated plan for the optimum use, conservation, and development of these resources. The study group will use existing data from other completed or ongoing studies to achieve the degree of detail necessary for comprehensive basin planning. The Fox-Wolf study will coordinate and integrate other studies, but will not duplicate them.

The two-year Fox-Wolf River Basin Study will be managed by the Great Lakes Basin Commission in cooperation with the Wisconsin Department of Natural Resources. A water resources management plan for the Fox-Wolf River basin will be prepared by the Commission with the guidance of a Steering Committee, a Planning Team, and a Citizens' Advisory Committee.

POLICY STUDIES

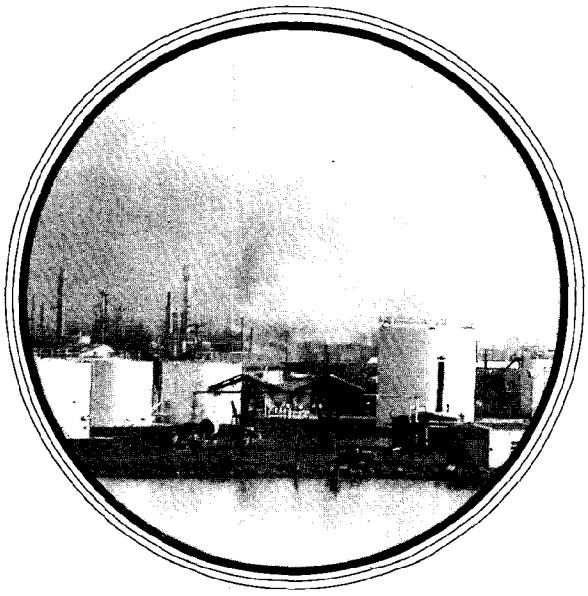
Energy Facilities Coastal Dependence Study

At the request of the Great Lakes states, Basin Commission staff conducted an intensive five-month study on the coastal dependency of energy facilities in the Great Lakes shore zone. The states expressed their common need for the study through the Basin Commission's Coastal Zone Management Committee. The study was funded by the federal Office of Coastal Zone Management.

The three objectives of the study were to:

- provide an overview of policies and programs affecting energy facility siting in the Great Lakes region
- describe technical factors affecting the siting and coastal dependence of energy facilities
- describe a full range of siting policy options for state coastal zone management programs.

Both federal and state roles in energy facility siting were examined in the overview of government policies and pro-



grams. The U.S. Environmental Protection Agency and the Nuclear Regulatory Commission were found to have particular influence on siting. Wisconsin, New York, Ohio, and Minnesota had established siting programs, but these did not include all energy facilities. Programs in states outside the Great Lakes Basin were also examined to identify additional approaches to facility siting.

Resource needs were quantified for fuel mix and cooling techniques by using technical and demographic scenarios to examine the physical constraints on the growth of electrical energy production. The states found most likely to be affected by development of further generating capacity were Michigan, Minnesota, New York, Ohio, and Wisconsin. It was established that extensive population and industrial growth would put considerable pressure on Great Lakes coastal counties and their energy-related resources.

Water to cool most new plants would have to come from the Great Lakes. Generating facilities using once-through cooling must be located on or near the shoreline because of the substantial cost of transporting water inland by pipeline.

Facilities using closed-cycle cooling, while they might draw water from the Lakes, are less dependent on locations on or near the shoreline.

This study also found that, though coal and oil transshipment facilities are dependent on coastal locations, refineries are not coastal dependent. The coastal dependency of fuel storage facilities depends on future transportation requirements, industrial needs, and on- or off-site use of fuel.

Also examined were institutional options for influencing energy facility siting in the areas of

- siting policy
- organizational arrangements
- functional responsibilities
- siting procedures
- siting criteria
- financial mechanisms
- intergovernmental relations.

Three main technical options were developed for energy facility siting:

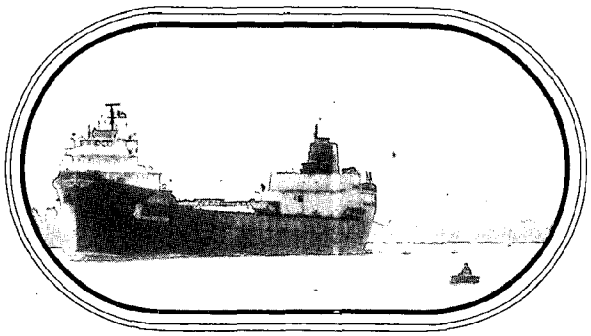
- exclusion of all new facility development in the coastal zone and prohibiting access to coastal waters and fuel transportation
- exclusion of all new facility development in the coastal zone but allowing access to coastal waters and fuel transportation
- inclusion of new facility development in the coastal zone except in sensitive areas.

The report of the study contains suboptions in each of the three major categories and discusses their implications, giving the coastal zone management program participants in each state a basis from which to reach their decisions.

Michigan Water Resources Policy Study

With funding from the Michigan Department of Natural Resources, Basin Commission staff provided administrative support for the Department's Michigan Water Resources Policy Study. Commission staff supervised an independent consultant in the Phase I effort to identify present or potential conflicts among uses of the state's water-related resources and to examine the implications of these conflicts for future water resource policies.

Phase II will delineate alternative policies, management strategies, and institutional arrangements for dealing with the conflicts. It will assess the broad physical, social, and economic impacts of these alternatives.



STUDIES PROPOSED

Great Lakes Environmental Planning Study

One of the main recommendations of the Framework Study was the undertaking of the currently proposed Great Lakes Environmental Planning Sudy (GLEPS) as an essential component of the CCJP. GLEPS is the Basin Commission's first priority among proposed new studies.

The Great Lakes function as an interconnected ecological system, and scientific models already exist for describing the physical, chemical, biogical, and other relationships within the system. The purpose of the GLEPS study is to integrate currently available analytical methodologies, incuding mathematical models, into a system useful for planning purposes. GLEPS is designed as a tool for evaluating the consequences of alternative plans for resource use and strategies for the Lakes, as is required by the CCJP.

The Basin Commission has done some pioneer work on the use of systems analysis in the planning process, and this work has stimulated substantial effort on model development by other Great Lakes agencies. During fiscal 1977, the U.S. Environmental Protection Agency will publish a staff paper developed in fiscal 1976, which reviews the history of the Commission's work in limnological systems analysis and the status of modeling technology in the Great Lakes. It will be published along with two reports on Great Lakes limnological systems analysis prepared for the Commission under contract during previous years.

The Commission has proposed that the U.S. Water Resources Council fund GLEPS starting in FY 1978.

Great Lakes Regional Water and Energy Study

As the Great Lakes Basin's population nearly doubles during the next 50 years, demands for energy production in the Basin will also increase. One of the main Framework Study recommendations was to undertake a Great Lakes Regional Water and Energy Study to address water and energy demands in a Basinwide perspective.

Increased energy production has certain inherent potential impacts on the aquatic, terrestrial, meterological, socioeconomic, and institutional environment. The use of water and related land for new energy facilities may prove to be in conflict with ecological stability, recreational demands, or aesthetic preferences.

As part of the CCJP process, the study is intended to help plan for reliable and timely supplies of energy to the residents of the Great Lakes region at reasonable economic and social costs, while minimizing or avoiding adverse environmental impacts and land use conflicts. Such a regional approach would take into account state, national, and international plans, projections, and policies.

COORDINATION

STANDING COMMITTEE ON COASTAL ZONE MANAGEMENT

As individual Great Lakes states progressed significantly in developing coastal zone management (CZM) programs during fiscal 1976, the Basin Commission's Standing Committee on Coastal Zone Managment increased its coordinatting role.

Because the Great Lakes shore zone is one of the most environmentally and economically sensitive parts of the Basin, it is the focal point for many of the Basin Commission's activities.

The Basin Commission Coastal Zone Management (CZM) Committee, which consists of representatives from the eight Great Lakes states and six federal agencies, fostered improved communication, regulations, coordination, and joint technical studies. The CZM Committee held six meetings, two technical seminars, and one public involvement training workshop.

The U.S. Office of Coastal Zone Management (OCZM) and other federal agencies continued to use the Committee as a forum in which to address agency positions with respect to the CZM programs in the region. The Coastal Zone Management Act requires the greatest practicable consistency among state and federal actions on the shore zone. Early dialogue was essential for the development of programs that will be workable for all agencies involved.

In September 1975, the Committee sponsored a one-day seminar to clarify a series of threshold papers, which were non-binding supplemental guidelines issued by OCZM describing what was necessary for state coastal zone programs to qualify for federal approval. States used the Committee as a forum of their own to urge a faster pace in implementing Federal Insurance Adminsitration programs in erosion-prone areas of the Great Lakes shores.

The OCZM used the Committee as a forum for substantive discussion with representatives of the Great Lakes states during the 1976 drafting of amendments to the Coastal Zone Management Act of 1972. After the Amendments (P.L. 94-370) were signed by the President in July 1976, the Committee became a regional forum to discuss the drafting of implementing regulations.

In a mutually beneficial sharing of technical expertise, the CZM Committee directed the submission of a proposal to OCZM for Basin Commission staff to study policy options for energy facilities siting in the Great Lakes coastal zone. [See *Energy Facilities Coastal Dependence Study* in this report.]

The Committee is coordinating the Great Lakes Shoreland Damage Study, conducted by the U.S. Army Corps of Engineers in conjunction with state and local agencies. A pilot portion of this study suggested that damages during the 1972-1974 high-water period were two to three times greater than those during the 1951-1952 high-water period. Further study to determine whether this relationship holds true for the entire Great Lakes shoreline and to evaluate lake level regulation plans is scheduled for completion in 1979.

On CZM Committee request, the Great Lakes Basin Commission and the Region V Federal Regional Council disbanded their Joint Task Force on Shoreland Damage Reduction. With the damage reduction strategies recommended, coordination of the Great Lakes Shoreland Damage Study was assigned to the CZM Committee, the membership of which was largely duplicated by that of the joint task force.

In February 1976, the Committee sponsored a Great Lakes shoreline recession rates seminar to assure consistent methodologies for determining recession rates and erosion-hazard areas. The Committee also began plans for jointly sponsoring with the U.S. Soil Conservation Service a December 1976 workshop on the use of vegetation for stabilizing shore zone banks.

The CZM Committee sponsored a Shoreland Public Involvement Worskhop with OCZM funding in Buffalo, New York, in September 1976, which more than 100 American and Canadian citizen leaders and shoreland management experts attended. Its purpose was to enable exchange of ideas for involving the public in CZM programs and to galvanize them into an action plan. The workshop has shown results at the state and local levels, in both the United States and the Province of Ontario.

STANDING COMMITTEE ON TRANSPORTATION

The Standing Committee on Transportation was established to examine transportation problems from a regional and multimodal perspective in relation to the Basin's coastal zone management, water, land use planning, and energy needs.

The Committee held two workshops during the year. The objective of the first workshop was to stimulate a vigorous exchange of ideas among government, industry, and research concerns regarding all modes of transportation in the region. The workshop attendees examined the strengths and weaknesses of transportation in the region, the problems resulting from its deficiencies, issues to be addressed in resolving the problems, and priorities for addressing the problems. The Commission published the proceedings of this workshop.

A second workshop was held to explore specific actions that could be taken by transportation operators and users, as well as local, state, and federal governments, to improve multimodal transportation. The proceedings of this workshop will be published in 1977.

The Committee expects to use the results of the workshops as background information for reviewing regional transportation planning and for making recommendations about transportation to the Great Lakes Basin Commission.

INTERNATIONAL

The Basin Commission fostered international coordination by inviting Canadian federal and provincial observers to special events and quarterly meetings and regularly confering with Canadian institutions on an informal basis. The Basin Commission brought about further coordination with Canada by assisting the International Joint Commission (IJC) on several levels, one of which was to review and comment upon reports of various IJC boards.

The executive director of the Basin Commission served as Chairman of the Social Sciences, Economic, and Legal Aspects Standing Committee of the IJC Research Advisory Board and, following a reorganization of that group, as a member of the Expert Committee on Societal Aspects of Great Lakes Water Quality.

The Basin Commission staff served on boards, reference groups, and committees of the IJC, contributing technical information to international projects, and assisting with IJC workshops.

POLLUTION FROM LAND USE ACTIVITIES

An important portion of the Great Lakes Basin Commission's staff work toward solving problems of nonpoint-source pollution was accomplished for the Pollution from Land Use Activities Reference Group (PLUARG). The International Joint Commission (IJC) established this U.S.-Canadian group under the 1972 Great Lakes Water Quality Agreement to assess the extent of nonpoint-source pollution and recommend remedies.

The PLUARG study, divided into four major tasks, was subcontracted to various federal agencies, consulting firms, and university researchers. Because of their experience in land and water planning, Basin Commission staff were asked to work on parts of all four tasks. Staff activities and subcontracts coordinated through the Basin Commission for PLUARG were funded either under reimbursable contract to the U.S. Environmental Protection Agency or through agreement with the U.S. Soil Conservation Service.

Task A was to assess current land use problems with existing information and to set priorities for studying how land use affects Great Lakes water quality. Basin Commission staff produced a state-of-the-art report on the control and management of such problems, with emphasis on the existing institutional arrangements in the eight Great Lakes states. Staff coordinated the subcontracts for 16 technical papers on the subject, which have been published by the IJC.

Task B was to inventory current land uses in the Basin and to predict trends in future land use. Basin Commission staff compiled and analyzed the U.S. portion of this information, which was gathered both from the *Great Lakes Basin Framework Study* and from subcontractors. Much of the land use data was developed from satellite (LANDSAT-1) imagery by Purdue University. Staff compilation and analysis of the data during fiscal year 1976.

Intended to permit extrapolation of data to the entire Great Lakes Basin, Task C is an intensive study of several watersheds representative of specific land uses. Water quality at the river mouth will be related to upstream land use practices. Staff helped coordinate and administer studies of streambank erosion and soil analyses under Task C.

Task D is to diagnose the degree of impairment to Great Lakes water quality that has resulted from land use activities. Staff developed a plan of study for the U.S. portion of Task D work, prepared an overview report on shore erosion, and identified and evaluated existing river mouth loading data. Under staff administration will be several additional subtasks.

WINTER NAVIGATION

The Great Lakes Basin Commission played a continuing role in the program to demonstrate the practicability of year-round navigation on the Lakes. The Basin Commission chairman participated on the Great Lakes-St. Lawrence Seaway Winter Navigation Board, which oversees the multi-agency demonstration program. The Basin Commission executive director served on the Winter Navigation Board's Working Committee, and Commission staff served on its Environmental Evaluation Work Group. The Board is composed of representatives of the U.S. Army Corps of Engineers, U.S. Coast Guard, U.S. Environmental Protection Agency, St. Lawrence Seaway Development Corporation, National Oceanic and Atmospheric Administration, U.S. Department of the Interior, Federal Power Commission, Great Lakes Commission, and most recently, the state caucus of the Basin Commission.

RESEARCH AND DATA COORDINATION

The Great Lakes Basin Commission continually fosters coordination of research and data-gathering efforts which relate to its planning mission so that it may base effective planning on sound technical information and help avoid critical gaps and needless overlaps among research efforts.

Basin Commission staff served as technical advisors to the Lake Erie Wastewater Management Study group and assisted the National Commission on Water Quality. They routinely reviewed technical proposals from research-oriented institutions, including those under the Sea Grant program. The staff met with the technical boards of various studies and programs, presenting papers at annual scientific meetings, particularly the International Association for Great Lakes Research, and cooperating with researchers in many activities.

Working under an interagency agreement with the U.S. Environmental Protection Agency, the Commission planned a meeting to be held in 1977 to discuss ship operating schedules and ways to inventory the general types of data collected on major research cruises.

In the past year the Commission published the *Proceedings of the Second Federal Conference on the Great Lakes,* sponsored in March 1975 by the Interagency Committee on Marine Science and Engineering (Federal Council for Science and Technology). Commission staff also helped to organize the conference, which was attended by 144 scientists from the United States and Canada, and dealt with the effects of energy production on the Great Lakes environment. Staff worked closely with the Argonne National Laboratory to prepare nearly 50 technical papers for publication. Requests for the *Proceedings* exceeded the 5,000 printed.

In October 1975, the Basin Commission published *Public Priorities for Great Lakes Research,* which reported the results of a survey conducted and analyzed by Commission staff under a grant from the Office of Water Research and Technology. The study surveyed a selection of environmental, civic, business, agricultural, professional, and local planning organizations, asking them to rank by priority 14 selected research needs. The results suggested that public interest organizations place high priority on research into nonpoint-source pollution, methods of public involvement and education, institutional relationships, methods of predicting impacts of plans, and methods of removing harmful substances from drinking water.

STATE ACTIVITIES REVIEW

ILLINOIS

The Lake Michigan Diversion Allocation Program was one of the primary water resources programs in Illinois. Under the Division of Water Resources, several regional studies were completed as part of this program: a survey of water resources, a forecast of population and water demand, an evaluation of water quality, and an evaluation of possible water uses.

The three-year program to develop a coastal zone management plan entered its second year. Data collection activities resulted in specialized coastal mapping, a coastal geologic inventory, a report on coastal biology recommending protective measures, studies of shore erosion and corrective measures, and boundary evaluation. A report was completed on the legal framework for administering Illinois coastal zone management and the role of local government within it. Public were involved in decisions affecting the elements of the program.

The state's Division of Water Resources encouraged local governments to avail themselves of federal flood insurance and adopt regulations to prevent increases in flood damage. A strategic flood control plan was adopted for the North Branch of the Chicago River. The Division entered into a sponsorship agreement with local agencies to acquire flood detention sites. Development of a similar agreement for the Little Calumet River was begun.

INDIANA

Indiana proceeded with the acquisition of land along the Little Calumet River for recreational facilities. The state flood plains management program was established by the legislature, and minimum standards were published by the Indiana Natural Resources Commission (NRC). Eight Great Lakes Basin communities passed flood plains ordinances which were approved by the NRC. The Indiana Planning Services Agency contracted with the Northwest Indiana Regional Planning Council, State Board of Health, and Department of Natural Resources to conduct the inventory phase of the coastal zone management program. Indiana continued to participate in the Maumee River Basin Level B Study.

The Great Lakes Basin portion of Indiana had three areawide wastewater treatment programs under Section 208 of the 1972 Water Pollution Control Act. The Northwestern Indiana Regional Planning Council completed data collection and scheduled completion of its entire study by December 1977. The Michiana Area Council of Governments began data collection for a 208 study scheduled for completion by February 1978. A similar study by the Northeast Indiana Coordinating Council awaited full funding.

MICHIGAN

Michigan's major step toward improved water quality during the reporting period was a successful petition to the U.S. Environmental Protection Agency for a no-discharge designation of the Great Lakes and other Michigan waters. As a result, it may now prohibit vessels from discharging treated or untreated sewage overboard in Michigan waters.

The Department of Natural Resources (DNR) continued to operate a pollution alert system to provide fast and complete response to environmental emergencies. The Michigan Water Resources Council held public hearings in 1976 on changes in the state's water quality standards. The first phase of the Michigan Water Resources Policy Study was completed.

The DNR continued to develop the state coastal zone management program, with information from other state agencies, federal agencies, and the general public. Draft documents on several progam components have been completed, and a complete draft will be submitted for public review and hearings in the spring of 1977.

MINNESOTA

Minnesota accelerated development of its framework plan for water and related land resources under the Minnesota Water Resources Council. Phase 1 is scheduled for completion in June 1977. The state continued an inventory classifying its public waters. After public hearings and agreement with the counties on the designation of these waters, the inventory will be published in map form.

With direction from the Minnesota Pollution Control Agency, agencies throughout the state pursued the ongoing water quality management planning program under Section 208 of P.L. 92-500. Minnesota continued comprehensive planning for the shorelines of Lake Superior under the Federal Coastal Zone Management Act in cooperation with local governments.

In September 1976, the governor designated an 80-mile segment of the Mississippi River near Minneapolis-St. Paul as a critical area. This designation will trigger a massive planning and regulatory program by state and local agencies to protect the river against unwise and uncoordinated development.

NEW YORK

Twenty of the 26 subbasins in New York prepared water quality management plans under Section 303(e) of P.L. 92-500. Syracuse and Buffalo were designated for areawide wastewater treatment planning under Section 208 of the same law. New York's coastal zone management program completed its first year. Freshwater wetlands and other areas of concern within the shoreland areas of Lake Erie, Lake Ontario, and the Niagara and St. Lawrence Rivers were identified in part. Activities involved goal-setting, delineation of the coastal zone, public participation, and intergovernmental coordination.

The New York Department of Environmental Conservation (DEC) helped flood-prone communities obtain eligibility for federal flood insurance. Of 642 communities identified as flood prone, 520 now are eligible. The DEC started 67 subbasin hydrologic studies for flood insurance purposes.

New York's river basin planning program was continued through regional water resources planning boards. Completed elements of plans for the Erie-Niagara, Black, St. Lawrence, and Oswego River basins were accepted by the Great Lakes Basin Commission as part of the comprehensive coordinated joint plan.

OHIO

One of Ohio's major water-related programs was the construction grants program under Section 201 of the Water Pollution Control Act. In the past year, Ohio as been awarded $300 million for planning, design, and construction under this program. Major areas of activity within the Great Lakes Basin were Lucas, Henry, and Erie Counties and the Cuyahoga Valley.

Work also continued on areawide wastewater treatment planning under Section 208 of the same act. The Toledo Metropolitan Area Council of Governments completed the technical phases of its planning. The Northeast Ohio Four-County Regional Planning and Development Organization and the Northwest Ohio Area Coordinating Agency continued their technical planning phases. In nondesignated areas of Ohio, the state itself will execute its approved Section 208 work program.

The coastal zone management program within the Ohio Department of Natural Resources produced a final report on first-year reconnaissance activities. Second-year work is to include establishment of advisory associations, detailed resource analyses (including the Ohio Capabilities Analysis Program), and establishment of a federal consistency requirement.

Implementation of the State Water Development Plans continued. The reservoir at New London on the Vermillion River was put into service, and significant amounts of water were released from the Killdeer and Willard reservoirs for low-flow augmentation or water quality purposes.

To fulfill the recreation needs outlined in the State Comprehensive Outdoor Recreation Plan, two major state parks along the Lake Erie have been proposed. The DNR continued its acquisition program for the Maumee Bay State Park and the development of a full range of state park recreation services. The proposed Cleveland Lake Front State Park is undergoing plan development for scattered locations on the lake front.

PENNSYLVANIA

The control of erosion on the beaches of Presque Isle State Park is one of Pennsylvania's foremost concerns in its portion of the Great Lakes Basin. Erosion control was planned in detail, both through a state-funded program and through a cooperative state-federal beach nourishment program under the Water Resources Development Act of 1974.

With federal funding support, the state continued a successful program to establish a Pacific salmon sport fishery in Lake Erie and its tributaries.

Most of the major developmental steps of Pennsylvania's coastal zone management program were completed, including maps of coastal zone boundaries and areas of particular concern, definition and prioritization of permissible uses within those areas, and preparation of a framework for legislation to implement the program.

Work continued with local governments and the general public to finish the comprehensive Pennsylvania State Water Plan. Publication of the final report on the plan is scheduled for fiscal year 1977.

Work on the Erie County Comprehensive Water Quality Management Study concluded with public hearings. Plans were made for updating the study for compliance with Sections 303(e) and 208 of the 1972 Water Pollution Control Act Amendments.

WISCONSIN

Wisconsin expanded its water quality planning to supplement that of three areawide agencies designated under Section 208 of the 1972 Water Pollution Control Act. The Wisconsin Department of Natural Resources will develop a statewide water quality management plan integrating various basin plans.

Wisconsin continued intensive surveys and mathematical modeling of low-flow streams to provide precise estimates of their capacities to assimilate waste. Wisconsin also conducted a computer-assisted waste load allocation program to determine maximum permissible loadings to severely affected stream segments. This program is being applied to problems on major mill rivers and small headwater streams affected by municipal or industrial discharges.

The state completed an inventory of public water systems covered under the Safe Drinking Water Act of 1974. This inventory shows approximately 1,500 "community" water systems that serve year-round residents and 17,000 noncommunity systems defined as public by law. A pilot study assessing the impact of the new federal law and regulations on Wisconsin water systems was partially completed.

PUBLIC INFORMATION & INVOLVEMENT

PUBLIC INFORMATION

Publishing and distributing information are fundamental activities for involving the public in Basin Commission water and land planning. The public want information in forms that are attractive, timely, easily understood, and provide avenues for response. Public want the option of having their response lead to full participation in planning.

With these principles in mind, the Great Lakes Basin Commission maintained and developed information activities that demonstrated a strategy of putting whole groups of information users in touch with whole groups of information sources. The task of gathering information and disseminating it to a large diverse population across so wide a geographic area as the Great Lakes Basin is challenging.

Public Information Office

The Basin Commission's Public Information Office responded to more than 11,500 requests for information, continuing its role as a clearinghouse for two-way communication between the Commission's 20 member agencies and a widely distributed public. It maintained, developed, and updated a computerized circulation file of more than 15,000 entries, which allowed the automatic selection of specialized mailing lists for specific information (e.g., libraries, city planners, or residents of a particular river basin).

Public Information Office staff carried through the massive and detailed task of preparing the last 13 volumes of the Framework Study for press. Eleven of these volumes were printed during the period. All volumes of the 27-volume Framework Study are now available at cost from the Public Information Office.

Report
Environmental Impact Statement
*Appendix 1 *Alternative Frameworks*
Appendix 2 *Surface Water Hydrology*
Appendix 3 *Geology and Ground Water*
*Appendix 4 *Limnology of Lakes and Embayments*
Appendix 5 *Mineral Resources*
*Appendix 6 *Water Supply: Municipal, Industrial, Rural*
*Appendix 7 *Water Quality*
*Appendix 8 *Fish*
*Appendix C9 *Commercial Navigation*
*Appendix R9 *Recreational Boating*
Appendix 10 *Power*
Appendix 11 *Levels and Flows*
*Appendix 12 *Shore Use and Erosion*
Appendix 13 *Land Use and Management*
*Appendix 14 *Flood Plains*
Appendix 15 *Irrigation*
Appendix 16 *Drainage*
Appendix 17 *Wildlife*
Appendix 18 *Erosion and Sedimentation*
Appendix 19 *Economic and Demographic Studies*
*Appendix F20 *Federal Laws, Policies, and Institutional Arrangements*
*Appendix S20 *State Laws, Policies, and Institutional Arrangements*
Appendix 21 *Outdoor Recreation*
Appendix 22 *Aesthetic and Cultural Resources*
Appendix 23 *Health Aspects*

* printed in FY 76

The staff also provided support services for many of the other Basin Commission activities listed in this report. In addition to the Framework Study, 19 other publications, including technical papers, workshop summaries, research proposals, and informational brochures, were processed through the Public Information Office during this period. These included:

Alternate Plans for Public Action
Great Lakes Basin Commission 1975 Annual Report
Great Lakes Directory, 1976
***Materials Usage in the U.S. Great Lakes Basin*
Problem Identification: Great Lakes Region
***Proceedings of the Second Federal Conference on the Great Lakes*
***Public Priorities for Great Lakes Research*
Report on the January-February 1976 Public Involvement
State-Regional Future: Great Lakes Region
***Transportation in the Great Lakes Region: 1975 Workshop Proceedings*
**Framework Study Public Meeting *(booklet)*
**Great Lakes Basin Commission Publications *(brochure)*
**Great Lakes Regional Trail System Workshop
**Great Lakes Shoreland Public Involvement Workshop
Maumee River Basin Level B Study: A Definition
The Fox-Wolf River Basin Study
The Great Lakes Basin Commission
**Toward More Effective and Efficient Multimodal Transportation in the Great Lakes Region: Evaluation and Action
What is CCJP?

** supply no longer available

Public Information Office staff also responded to scores of inquiries from print and broadcast media about the Commission's activities. Informational press announcements actively encouraged public attendance at the Commission's meetings and stimulated public response to the Great Lakes Basin Framework Study recommendations and Maumee Level B Study alternatives. Press announcements kept the public acquainted with the official positions and actions of the Commission.

The *Communicator*, the Basin Commission's monthly eight-page newsletter, grew to a circulation of 15,119 persons and institutions. The *Communicator* regularly reported activities of the Basin Commission and its member states

and agencies, providing a common pool of information as a coordinating tool. It also carried in-depth articles for the layman on major water-related issues from a broad variety of government and public viewpoints, a calendar of coming events, and announcements of publications likely to be of interest to its readers.

In March 1976 the Basin Commission's Public Information Office published the *Great Lakes Directory, 1976,* a comprehensive and updated guide to institutions and agencies concerned with the water and related land resources of the Great Lakes Basin. Based on a survey performed by Information Office staff, it lists government agencies, universities, research institutes, and libraries in both the United States and Canada. Government agencies are cross-indexed alphabetically and by parent agency. A short description of each agency and its functions is included. More than 7,700 copies of the directory were distributed. The directory was designed and produced under arrangement with the Great Lakes Environmental Research Laboratory, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, under funding by the Interagency Committee on Marine Sciences and Engineering.

PUBLIC INVOLVEMENT

The Great Lakes Basin Commission recommitted itself in 1976 to public involvement in planning for the future of the Great Lakes.

The Basin Commission recognized the importance of direct public involvement by opening a regularly scheduled segment of its quarterly meetings to citizen comments and questions. Previously, Commission bylaws had provided for citizen comment during quartery meetings only when placed on the agenda ahead of time.

All Great Lakes Basin Commission meetings have always been open to the public, but anyone who attends can now address the Commissioners directly from the floor. The Basin Commission amended its bylaws to this effect at the February 1976 quarterly meeting.

Public involvement has been a part of the Great Lakes Basin Framework Study since it began. As the Basin Commission moved toward final study recommendations, it sought further public opinions.

In January and February 1976, the Commission held public meetings in Duluth, Cleveland, Rochester, Chicago, Detroit, and Buffalo to solicit the broadest possible reaction to the proposed Framework Study recommendations. Advance copies of the proposed recommendations were mailed to nearly 14,000 persons, and the meetings themselves were widely publicized. Evening as well as afternoon sessions were held in each city to ensure that working people could attend. The recommendations were revised in light of public reaction before the Basin Commission approved them in June 1976.

Public involvement was also an integral part of the Maumee River Basin Level B Study. A 30-member Citizens' Advisory Committee (CAC) participated in the two-year study from its outset. Following a series of six public workshops, the CAC worked to define public goals for the planning effort. Alternative plans were then developed. Another series of eight public forums was held in January 1976. Through these forums and a mailed questionnaire, basin residents expressed their choices among the alternatives. A single proposed plan was formulated in light of these public choices, and public hearings on this plan were scheduled to be held in five cities during early 1977.

After completion of the Framework Study near the end of the 1976 fiscal period, the Basin Commission faced the new challenge of involving a group representative of the 30 million inhabitants of the Great Lakes Basin in the Comprehensive Coordinated Joint Plan (CCJP) for the Great Lakes Basin. An intensified dialogue on various proposed public involvement structures began at the August 1976 quarterly meeting and continued through the remainder of this period.

Citizen participation was likewise a vital component of the Basin Commission's contribution to the 1975 National Water Assessment. A Public Review Group of nearly 500 citizens, assisting a work group of representatives from Basin Commission member agencies, developed two key parts of the National Assessment for the Great Lakes, the *State-Regional Future* and *Problem Identification* reports, published in July-August 1976.

In response to state requests, the Standing Committee on Coastal Zone Management (CZM) organized a September 1976 workshop in Buffalo to explore ways of improving and coordinating the public involvement dimension of CZM programs in the individual states.

GREAT LAKES BASIN LIBRARY

GREAT LAKES BASIN LIBRARY

The Great Lakes Basin Library grew from 15,000 documents to approximately 20,000, including some 3,000 trade books and 200 periodicals. Acquisitions emphasized coastal zone management, energy, and transportation, subject areas where Basin Commission programs required the greatest amount of new information. There was a substantial increase in the use of the library by students, engineers, and citizen groups. The library is open to the public on a walk-in basis from 8 a.m. to 5 p.m. on weekdays.

As a Selected Federal Depository Library, the library receives all federal publications relating to water and land in the Great Lakes Basin. Major subjects include water resources, water quality, limnology, navigation, and pollution. The library also has documents on land use management, transportation, agriculture, wildlife, recreation, and mineral resources.

Staff continued to convert the library to the Superintendent of Documents classification system. All publications are indexed by title, subject, and issuing agency.

FINANCIAL STATEMENTS

STATEMENT OF REVENUE AND EXPENDITURES

Periods ended June 30, 1975, June 30, 1976 and September 30, 1976

	Year Ended June 30, 1975	Year Ended June 30, 1976	Three Months Ended September 30, 1976	Fifteen Months Ended September 30, 1976
Revenue:				
Federal Government agencies:				
Operations	$205,500	$ 201,725	$ 53,000	$ 254,725
Other	367,244	447,337	93,639	540,976
State Governments:				
Operations	240,000	240,000	60,000	300,000
Other	7,500	40,300	6,600	46,900
Other	-0-	25,553	5,699	31,252
	820,244	954,915	218,938	1,173,853
Less provisions for uncollectible revenues	(5,000)	-0-	-0-	-0-
TOTAL REVENUE	815,244	954,915	218,938	1,173,853
Expenditures:				
Salaries and fringe benefits:				
Salaries and wages	432,157	504,768	137,782	642,550
Payroll taxes	24,803	31,518	7,816	39,334
Retirement	14,435	20,101	4,786	24,887
Health and life insurance	17,173	22,265	6,513	28,778
	488,568	578,652	156,897	735,549
Other Expenditures:				
Travel	32,708	36,649	11,200	47,849
Rent	46,594	52,957	13,938	66,895
Communications	10,794	11,349	3,432	14,781
Postage	3,224	3,661	881	4,542
Meetings and conferences	3,186	3,082	1,633	4,715
Insurance	1,120	2,373	514	2,887
Repairs and maintenance	2,236	4,077	555	4,632
Printing and reproduction	117,595	133,669	42,984	176,653
Professional services	3,550	4,711	599	5,310
Subcontracted services	83,898	165,245	10,649	175,894
Other services	14,196	34,797	3,537	38,334
Supplies	16,847	17,300	5,115	22,415
Books, maps and periodicals	2,152	3,586	325	3,911
Furniture and equipment	16,046	12,926	3,391	16,317
Miscellaneous	1,709	438	264	702
	355,855	486,820	99,017	585,837
TOTAL EXPENDITURES	844,423	1,065,472	255,914	1,321,386
REVENUES OVER (UNDER) EXPENDITURES	(29,179)	(110,557)	(36,976)	(147,533)
Fund balance at beginning of period	316,283	287,104	176,547	287,104
FUND BALANCE AT END OF PERIOD	$287,104	$ 176,547	$139,571	$ 139,571

See notes to financial statements.

BALANCE SHEET — GENERAL FUND

September 30, 1976

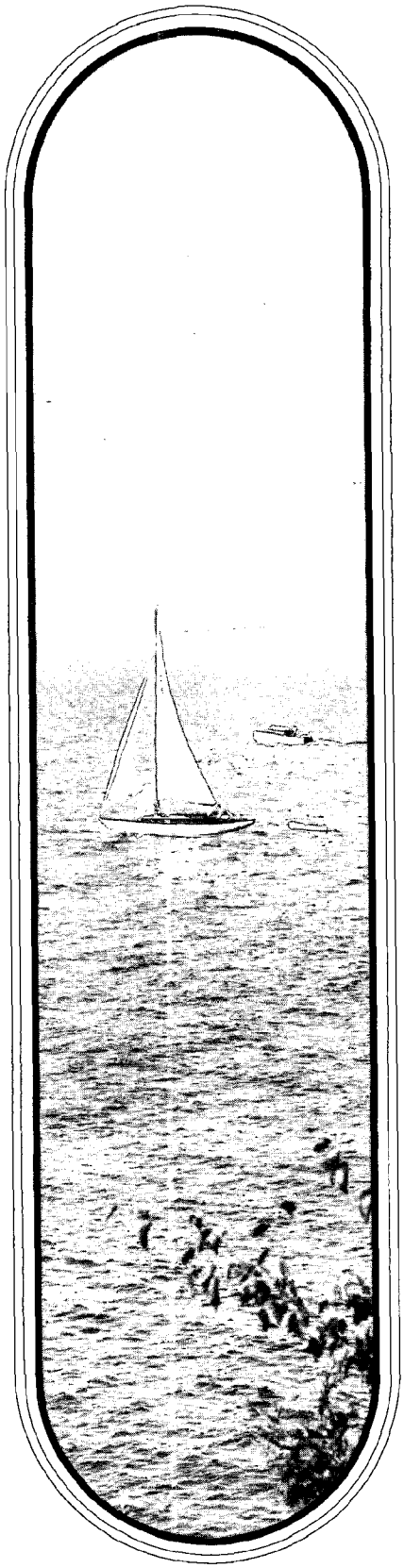
Assets		
Cash on deposit in United States Treasury:		
Restricted:		
Publishing of Framework Study	$ -0-	
Maumee River Basin Study	28,283	
National Water Assessment	78,734	
	107,017	
Unrestricted	(16,393)	$90,624
Petty cash		100
Accounts receivable:		
Grants receivable - U.S. Government	24,000	
Grants receivable - States	45,900	
Grants receivable - States past due	44,300	
Federal government agencies (including unbilled of $79,904)	105,972	
Other	1,398	
	221,570	
Allowances for uncollectible accounts	(5,000)	216,570
Advances and deposits		10,415
		$317,709
Liabilities and Fund Balance		
Liabilities:		
Accounts payable	$ 63,122	
Unearned revenue	4,393	
Retirement plan payments withheld and accrued	2,056	
Accrued annual leave	49,524	
Accrued sick leave	3,416	
Accrued unemployment	13,327	$135,838
Deferred revenue - grants for 1976-77 received in advance		42,300
Fund balance:		
Major restricted funds:		
Publishing of Framework Study	-0-	
Maumee River Basin Study	28,283	
National Water Assessment	78,734	
	107,017	
Balance for operations:		
Reserve for Publishing of Framework Study	41,285	
Deficit for future operations	(8,731)	
	32,554	139,571
		$317,709

BALANCE SHEET—PLANT AND EQUIPMENT FUND

September 30, 1976

Assets	
Furniture, equipment and library books- Note A	
Furniture and equipment	$ 70,435
Library books	15,305
	$ 85,740
Source of Funds	
Appropriations from unrestricted General Fund revenues	$ 85,740

See notes to financial statements.



STATEMENT OF CHANGES IN FUND BALANCE

Periods ended June 30, 1975, June 30, 1976 and September 30, 1976

	OPERATING FUNDS		RESTRICTED FUNDS			
	Reserve For					
	Future Operations	Publishing Of Framework Study	Publishing Of Framework Study	Maumee River Basin Study	National Water Assessment	Total
Year ended June 30, 1975:						
Balance beginning of period	$ 43,680	$67,000	$144,216	$ 61,387	$ -0-	$ 316,283
Revenue	602,992	-0-	50,252	132,000	30,000	815,244
Expenditures	(600,874)	-0-	(120,590)	(100,599)	(22,360)	(844,423)
Balance end of period	$ 45,798	$67,000	$ 73,878	$ 92,788	$ 7,640	$ 287,104
Year ended June 30, 1976:						
Balance beginning of period	$ 45,798	$67,000	$ 73,878	$ 92,788	$ 7,640	$ 287,104
Revenue	666,372	-0-	39,543	159,000	90,000	954,915
Expenditures	(703,875)	-0-	(122,172)	(206,083)	(33,342)	(1,065,472)
Fund transfers	-0-	(8,751)	8,751	-0-	-0-	-0-
Balance end of period	$ 8,295	$58,249	$ -0-	$ 45,705	$64,298	$ 176,547
Three months ended September 30, 1976:						
Balance beginning of period	$ 8,295	$58,249	$ -0-	$45,705	$64,298	$ 176,547
Revenue	185,236	-0-	5,702	-0-	28,000	218,938
Expenditures	(202,262)	-0-	(22,666)	(17,422)	(13,564)	(255,914)
Fund transfers	-0-	(16,964)	16,964	-0-	-0-	-0-
Balance (deficit) end of period	$ (8,731)	$41,285	$ -0-	$ 28,283	$78,734	$ 139,571

See notes to financial statements.

NOTES TO FINANCIAL STATEMENTS

Year and three months ended September 30, 1976

Note A — Accounting Policies

Effective September 30, 1976 the Commission changed from a fiscal year ending June 30 to a fiscal year ending September 30. This change was made to conform to a similar change made by the Federal Government. The change was effected by a "transition" quarter for the three months ended September 30, 1976. Consequently, this report is for the year and three months ended September 30, 1976.

The accounting records of the Commission are maintained on the accrual basis of accounting. Accordingly, revenue is recognized over the fiscal period of the Commission rather than the fiscal periods of the funding agencies.

Furniture, equipment and library books have been recorded in the Plant and Equipment Fund at cost. No provision for depreciation has been provided.

The Commission is exempt from Federal income tax under Section 501(c)(3) of the Internal Revenue Code and is treated as an organization which is not a private foundation.

The salary, expenses and related fringe benefits of the Commission Chairman are provided by the Water Resources Council and these costs are not included in the financial statement.

Note B — Lease Agreement

The Commission has entered into a lease agreement for the rental of office facilities extending to October 9, 1978, which requires a monthly payment of $4,445. Rental payments aggregated $52,597 in the year ended June 30, 1976 and $13,938 in the three months ended September 30, 1976.

Note C — Pension Plan

The Commission has a pension plan for most of its employees. Contributions amounted to $20,101 in the year ended June 30, 1976 and $4,786 in the three months ended September 30, 1976.

Great Lakes Basin Commission
3475 Plymouth Road
P.O. Box 999
Ann Arbor, Michigan 48106

We have examined the balance sheets of the General Fund and the Plant and Equipment Fund of the Great Lakes Basin Commission as of September 30, 1976, and the related statements of revenue and expenditures and changes in fund balance for the periods ended June 30, 1975, June 30, 1976 and September 30, 1976. Our examinations were made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the accompanying financial statements identified above present fairly the financial position of the General Fund and the Plant and Equipment Fund of the Great Lakes Basin Commission at September 30, 1976 and the results of its operations for the periods ended June 30, 1975, June 30, 1976 and September 30, 1976 in conformity with generally accepted accounting principles applied on a basis consistent with the preceding year.

Linscheid, Austin & Frohm
300 Michigan National Bank Building
Port Huron, Michigan 48060
December 10, 1976 — Certified Public Accountants

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Illinois Department of Transportation
Peter L. Wise, Alternate Commissioner (9/75)
Illinois Department of Transportation
L. Murray Pipkin, Alternate Commissioner (to 9/75)
Illinois Department of Transportation

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Executive Assistant to the Governor
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Indiana Department of Natural Resources

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Michigan Department of Natural Resources
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Michigan Department of Natural Resources

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Minnesota State Planning Agency
Andy Kozak, Alternate Commissioner
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New York State Department of Environmental Conservation
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New York State Department of Environmental Conservation
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New York State Department of Environmental Conservation

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Pennsylvania Department of Environmental Resources

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Corps of Engineers, Detroit District

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Lake Survey Center

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Region V

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Region V
George J. Vavoulis, Commissioner (to 11/75)
Region V

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North Central Region
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Walter Kiechel, Jr., Commissioner (to 8/76)
Land and Natural Resources Division
Bruce Rashkow, Alternate Commissioner (9/76)
Land and Natural Resources Division

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Office of Canadian Affairs
Louis Janowski, Alternate Commissioner (to 6/76)
Office of Canadian Affairs
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Commander Charles R. Corbett, Alternate Commissioner
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St. Lawrence Seaway Development Corporation

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Region V
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Region V

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Region V
Orel E. Haukedahl, Alternate Commissioner
Region V

Great Lakes Commission
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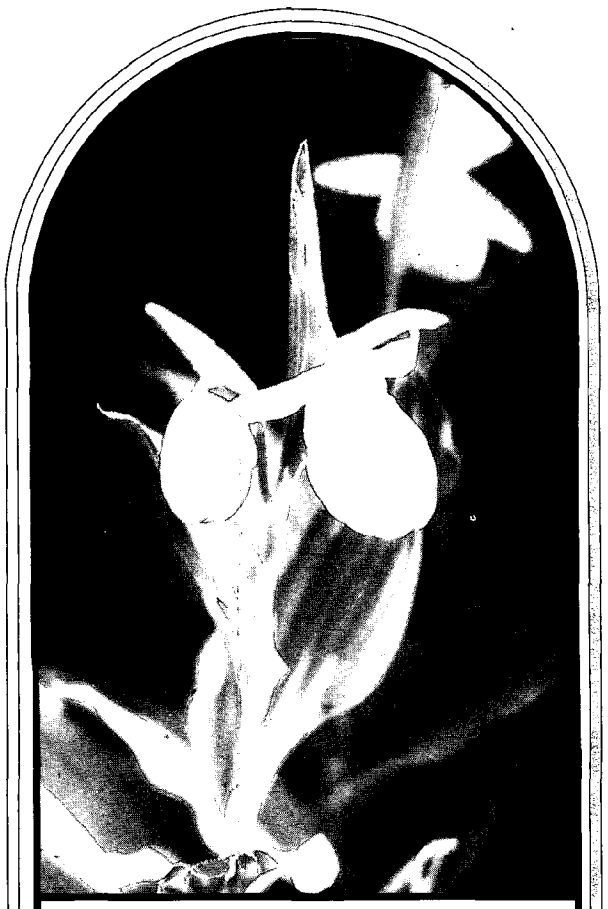
Robert W. Kellum, Commissioner (to 8/75)
Colonel Leonard J. Goodsell, Alternate Commissioner

Canadian Representatives
Ray Robinson (Federal)
Environment Canada
William A. Steggles (Provincial)
Ontario Ministry of the Environment



Photos courtesy of Michigan Tourist Council, p.2; Ellen Prosser, pp. 4, 6, 7, 9; John Tobin, p.8; Allen Curtis, p. 13; Seney Wildlife Refuge, p. 20.

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Frederick O. Rouse, Chairman

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